

**OPTOELECTRONIC DEVICE CAPABLE OF PARTICIPATING IN
IN-BAND TRAFFIC**

5

ABSTRACT OF THE DISCLOSURE

An optoelectronic device that has a network address (e.g., IP address) and participates in in-band traffic for purposes of performing functions (e.g., network diagnostics, network control, network provisioning, fault isolation, etc.) that are traditionally performed by host equipment. An embodiment of the invention may have a protocol engine and a status monitoring module. The protocol engine identifies data packets that are addressed to the optoelectronic device, and allows the optoelectronic device to insert packets of information generated by the device into in-band data. Logic of the optoelectronic device may modify the operating parameters of the device according to the control information included in the data packets. The status monitoring module detects the device's physical conditions and the conditions of its links. Status information generated by the status monitoring module may be incorporated into in-band data by the protocol engine such that the status information may be communicated to a host device or a remote device.

10

15

20